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SEEDING Case Study Report

Social Economy Enterprises addressing Digitalisation, Industrial Relations and the European Pillar of Social Rights

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1. Introduction

The SEEDING project is investigating how social economy enterprises are dealing with the processes of digitalisation and automation, in order to better understand whether their experience can inform industrial relations and help to address the goals of the European Pillar of Social Rights (in brief the "social pillar").

The project stems from the acknowledgement that ensuring secure and adaptable employment, fair working conditions, as well as equal opportunities and social inclusion, are key priorities for EU policies. At the same time, these goals have to cope with challenges emerging from "globalisation, the digital revolution, changing work patterns, and societal and demographic developments"[1].

Whereas the social pillar addresses these challenges at macro level by setting the framework for European and national policies targeting workers and citizens at risk of social exclusion, the project promotes a complementary approach, inquiring into how companies with social values or where workers are involved in governance, such as social enterprises and cooperatives, and their organisations, can contribute to tackling risks of social exclusion and unfair working conditions stemming from rising digital technologies.

In order to do so, the project has already delivered a Background Report[2], which sets the scene regarding both the challenges that the digitalisation of production poses for the industrial relations model, and the presence and features of social economy enterprises in seven EU countries, namely: France, Germany, Ireland, Italy, Poland, Slovenia and Spain.

The following step was the identification and analysis of 21 cases of social economy enterprises dealing with digital innovation in order to inquire into the process, characteristics and outcomes of related processes and inform policy-making and industrial relations with evidence and analysis of concrete experiences. The present report sums up and compares the case studies, both to orient readers through the full repository of case studies (available on the Seeding project home page), and to prepare the ground for the final output of the project, the Seeding project's Policy Guidelines.

The Policy Guidelines, expected by September 2021, will use the knowledge gleaned from the case studies and from further discussion occurring during the project's workshops to identify the key challenges digitalisation poses to industrial relations and employment in terms of job security, adaptability and working conditions, and to suggest strategies addressing such challenges at national, sectoral, local and company levels.

1 See Recital 9 of the European Commission Recommendation of 26 April 2017 on the European Pillar of Social Rights, C(2017) 2600 final.

2 https://seedingproject.eu/research_videostories/

2. Overview of the methodology and of selected practices

The research approach was designed to collect examples relevant to the project's aims and objectives, rather than seeking a representative sample of cooperatives and social enterprises.

For this reason, the analysis that follows does not rely on quantitative indicators or figures but rather follows a qualitative approach meant to illustrate and compare possible pathways to digital innovation, the related challenges and possible strategies to overcome them.

Nevertheless, the selection followed a two-stage procedure meant to make sure the cases were relevant to the aim of the project and balanced in terms of type of digital innovation and sector of activity.

This was done by asking the project's partners, all organisations well rooted in their countries as stakeholders or business associations in the field of social economy, to identify cases relevant to the project's aims and to submit to the coordination team a short table for each proposed case including an open description of key features, and data concerning: sectors and occupations addressed, company size, actor(s) responsible for introducing the innovation, type of innovation and its employment impact.

This tool to select cases was accompanied by an explanatory note stressing that the main target was practices in which digitalisation posed challenges in terms of job losses or deterioration of working conditions, that were nevertheless mitigated or overcome possibly thanks to the involvement of unions and workers. This viewpoint was deemed to be of particular interest as regards the overall aim of the project, as it might yield approaches through which social partners and policy-makers could address situations where digital innovation risks threatening jobs or working conditions.

Coherently with concerns on the digital divide emerging in the Background Report, including among companies themselves, the partners departed from the vectors of changes identified by Eurofound and presented in the Background Report (automation of work, digitisation and coordination by platforms) to expand the focus to cases of cooperatives and social economy enterprises which had adopted mature digital solutions, as well as of cases where digitalisation did not affect internal organisation but fostered innovation by external stakeholders such as small and medium-sized enterprises (SMEs) or the community at large.

Box 1: The Eurofound framework for the analysis of the process of digitalisation[3]

On the basis of an extensive literature review, Eurofound defines 'digitalisation' as the set of transformative changes brought by the widespread adoption and diffusion of digital technologies, and classifies such changes according to the following three analytical categories.

Automation of work: the replacement of (human) labour input by (digitally-enabled) machine input for some types of tasks within production and distribution processes. Although machine automation predates even the Industrial Revolution, the use of digital technologies allows the algorithmic control of machinery and, therefore, many more possibilities for automation. With digitally enabled machines and artificial intelligence, all kinds of tasks can be potentially automated.

Digitisation of processes: the use of sensors and rendering devices to translate (parts of) the physical production process into digital information (and vice versa), and thus take advantage of the greatly enhanced possibilities of processing, storage and communication of digital information. This is the main way in which the attributes of the digital economy have spread to sectors and industries beyond ICT (...).

Coordination by platforms: the use of digital networks to coordinate economic transactions in an algorithmic way

In particular, automation (i.e. the replacement of labour input by machine input for some types of tasks in production and distribution processes) was taken to include not only the adoption of emerging technologies but also e-commerce and cloud computing. Furthermore, since highly automated machines were usually introduced along with technologies monitoring production processes to transform analytical information into digital information (e.g. monitoring milk quality or counting stock levels in real time), a single category was used for companies automating and/or digitising the provision of products or services.

In line with the overall approach of the project, the category of platforms was narrowed down to 'platform work', including digital networks only when the coordination of economic transactions in an algorithmic way affects the provision of labour rather than the sale of goods or the rental of assets.

Platforms addressing goods or assets, together with other experiences of social economy enterprises promoting the adoption of digital based solutions by stakeholders, were instead covered in the residual category 'other'.

3 Eurofound (2018), "Automation, digitisation and platforms: Implications for work and employment", Publications Office of the European Union, Luxembourg, p. 15.

Following inputs by partners, the coordination team selected 2-4 practices from each country which were deemed capable of informing the project, while ensuring a sufficient heterogeneity in terms of type of innovation and sector addressed.

Partners then implemented a full analysis following the template eventually used for publication, including additional guidance on key questions and content of each section.

Sources adopted for the selection and subsequent analysis include interviews with managers and, in some cases, workers, official reports and documents, including by the selected company, grey literature and academic and magazine articles.

The following table provides an overview of the selected practices, summarising their features and dividing them according to country, type of innovation and sector.

Table 1: Overview of selected practices

Country	Type of innovation: Automation and digitisation of work	Type of innovation: Platform-based work	Type of innovation: Other
DE	**Agrargenossenschaft Trebbin** (agriculture/food industry): An agricultural cooperative, from 2014 onwards it introduced high-tech technologies to: (i) record information on cattle health and milk yield through modern digitised equipment; (ii) render field activities more precise and efficient through highly automated machines and analysis of the data they produce. **Raiffeisenbank Main-Spessart** (banking): A cooperative bank, Raiffeisenbank Main-Spessart (Raiba MSP) is, in line with sectoral trends, investing in multi-channel services for its customers while seeking to upskill its workforce and involve them actively in developing new ideas and solutions for clients.	**4freelance** (IT services): A platform for freelancers, 4freelance mediates IT services whilst seeking to guarantee fair contractual conditions, in cooperation with organisations of freelancers.	

Country	Type of innovation: Automation and digitisation of work	Type of innovation: Platform-based work	Type of innovation: Other
ES	**Ambulancias Barbate** (health): A cooperative providing medical transport services, Ambulancias Barbate equipped its ambulances with digital technologies, improving its services to meet standards imposed by public clients and secure new contracts. **Suara** (social services): A provider of personal care and education services, Suara implemented a Digital Transformation Plan, including the introduction of an area devoted to the implementation of Enterprise Resource Planning Software and other digital tools, the introduction of web communication channels with clients (also strengthening control over workers) as well as of discussion and transparency tools helping workers to take part in decision-making.		**Som Mobilitat** (passenger transport): The Som Mobilitat cooperative provides a car sharing platform covering both urban and rural areas which gives control over the car fleet and its maintenance to the community of car sharers themselves.
FR	**Groupe Up** (business services): The cooperative group, supplying vouchers and e-vouchers, has implemented a digital transformation process entailing training in digital skills and the introduction of a 'digital office' improving remote services to clients. It also includes measures to improve the work environment and working conditions through collective agreements.	**Happy Dev** (IT services): A network of freelancers, Happy Dev offers a digital space where freelancers can cooperate to share resources and job opportunities or develop projects together under a single brand. **ouishare association** (consultancy): The association operates an online platform for freelancers, who mostly provide consultancy services. The platform uses digital tools like Loomio to take decisions and to address commercial opportunities jointly.	**France Barter** (business services): A B2B network, France Barter provides a digital space where companies can barter their services and products in a closed circle, benefiting each other.

Country	Type of innovation: Automation and digitisation of work	Type of innovation: Platform-based work	Type of innovation: Other
IE	**Speedpak** (manufacturing): The cooperative digitalised both its production of bespoke rosettes and activities of internal management and customer outreach through ad-hoc software. Increased quality of products and productivity resulted in extending sales, while maintaining and upskilling the workforce.		**WeCreate** (business services): This workspace, run by the Cultivate cooperative, provides a range of digital fabrication equipment based on the Massachusetts Institute of Technology (MIT) Fab Lab model which is designed to let people make almost anything. This equipment combined with workshop space is available to rent to makers, developers, artists and many others, giving the opportunity to create what they wish.
IT	**Formula Servizi** (cleaning): The company is innovating in delivering its cleaning and hospital logistics services in various ways, from automated vehicles distributing meals and drugs in hospitals to the development of an automated warehouse. New technologies have been accompanied by training to upskill the workforce, some now being employed in robot maintenance. **Naturcoop** (gardening and waste collection): This work integration social enterprise introduced an app to simplify instructions on tasks to be performed by gardeners, thus using technology to ease the labour inclusion of workers with disadvantages. It also introduced software to track the situation and progress of the workers it employs via mediation by the Social Services.	**appTaxi** (passenger transport): the platform matches ride requests with cooperatives of licensed taxi drivers via an app which complies with existing rules on taxi services and on working conditions of taxi drivers. **Doc Servizi** (culture and entertainment): This cooperative associates artists and related professionals who provide services for events. Working as a platform before the birth of algorithm-based platforms, it now uses digital tools to find workers suitable for a service more easily and to improve its services to members.	

Country	Type of innovation: Automation and digitisation of work	Type of innovation: Platform-based work	Type of innovation: Other
PL	**Piątnica District Dairy Cooperative** (Piątnica) (food industry): An agri-food cooperative employing about 800 persons, Piątnica automated and digitised its production lines for the processing of milk and of dairy products, thus improving quality and expanding its market. As the innovations required new digital skills, especially to operate the Enterprise Resource Planning software introduced to monitor production lines, the company retrained its workforce. **Bank Spółdzielczy w Kruszwicy** (banking): The cooperative bank has been implementing online and mobile banking tools. So far, thanks to training its workforce and improving customer service, it has managed to retain jobs. **Panato** (trade): A cooperative of sewing companies, Panato created a configurator enabling customers to design their own personalised bags. The software streamlined order processing while strengthening the position of the brand in the sector of advertising bags.		
SI	**Hiša!** (tourism): A cultural company promoting tourism in Maribor, Hiša! gradually moved its operations from paper to computer. It established an online store, and uses social media as a marketing tool and cloud-based software to simplify teleworking and coordinate team work. **Knof** (services): The company created an e-commerce shop for its second-hand products and trained its staff to operate the platform, including by describing products and taking photos. Retraining avoided redundancies and sustained the process of change.		

3. Social economy enterprises and technologies automating or digitising production

As anticipated, the first category brought together cases featuring broadly intended forms of automation or digitisation of production.

As far as highly automated technologies are concerned, the sample showcases cases of machines introduced to: assist and partially automate farming activities (Agrargenossenschaft Trebbin), to automate dairy production lines (Piątnica), to simplify the carrying and administration of drugs in hospitals (Formula Servizi) or to improve cutting operations in the manufacture of rosettes and ribbons (Speedpak).

In line with the paradigm of Industry 4.0, technological innovation enables the collection and processing of valuable data concerning the production process itself and the quality of products (an aspect particularly relevant for cooperatives in the food industry), and the streamlining of information flow from the receipt of client orders through production to despatch, with consequent efficiency gains in work organisation.

As concerns other forms of digital innovation, some cases reflect the growing importance of the internet as a channel to sell products and provide services to customers, with importance attached especially to: e-commerce portals (Panato, Knof, Speedpak), web-based solutions to improve marketing, mostly through social media activities (Hiša!), apps and digital tools enabling remote and autonomous access to services by clients (this is mostly the case of the two cooperative banks covered, Raiffeisenbank Main-Spessart and Bank Spółdzielczy w Kruszwicy).

Akin to changes in companies introducing highly automated machines, innovation in production or in customer relationships was usually accompanied by innovation in human resource management, mostly involving the digitisation of processes to support coordination of teams, plan work activities and monitor progress via ad-hoc software solutions.

Overall, the comparison of cases highlights four approaches, at times adopted complementarily, which accompany digital innovation while assuring a positive or neutral impact on employment and working conditions.

The following paragraphs describe each of them separately while providing references useful to guide readers through the separate full analysis of cases available on the Seeding website.

- Using efficiency or quality gains ensured by innovation to expand the market and sales

Read the other way around, efficiency gains achieved through technological

innovation reduce the labour force necessary to produce goods. In a similar fashion, technologies meant to improve quality, while reducing errors and waste (e.g. less need for treatment with crop fertilisers), indirectly lead to similar outcomes, and may also trigger redundancies.

As already highlighted in the Background Report and corroborated by extensive literature, whilst Industry 4.0 technologies are not yet widespread, there is concern that the ongoing technological revolution may automate an unprecedented range of tasks and functions, essentially reducing employment and amplifying the long-standing shift in income distribution from labour to capital.

However, the vision behind the innovations in the companies studied was from the outset that innovation would be accompanied by expanded sales or penetration into new market segments. This expansionary attitude enabled these companies to achieve new equilibria, where employment levels generally remained stable, and, in few cases, employment and pay grew.

This vision was particularly evident in the manufacturing company Speedpak, also driven by the company's partial reliance on public-funded traineeship schemes meant to promote social inclusion.

"Digital technologies were adopted for a few reasons: to provide new training opportunities for trainees to acquire new skills; to improve product quality and customer service; attract new customers to grow sales and contribute to financial sustainability. The purchase of digital and automation technology for cutting fabrics has led to increased productivity in rosette, sash, and badge production. The procurement of Customer Relationship Management (CRM) software technology supports the Company to manage customer contacts, orders and stocks across both its businesses. The Company has built up experience on how to access different e-commerce platforms used by online retailers to secure additional contracts from companies to distribute their products. In fact, the low level of digital expertise of Speedpak training staff can limit the types of commercial contracts that Speedpak pursues. This has implications for growing the company's business. At the same time, if Speedpak automated more functions of its business, this would reduce its labour requirements, thereby limiting its capacity to provide training opportunities to trainees."
(Speedpak case study)

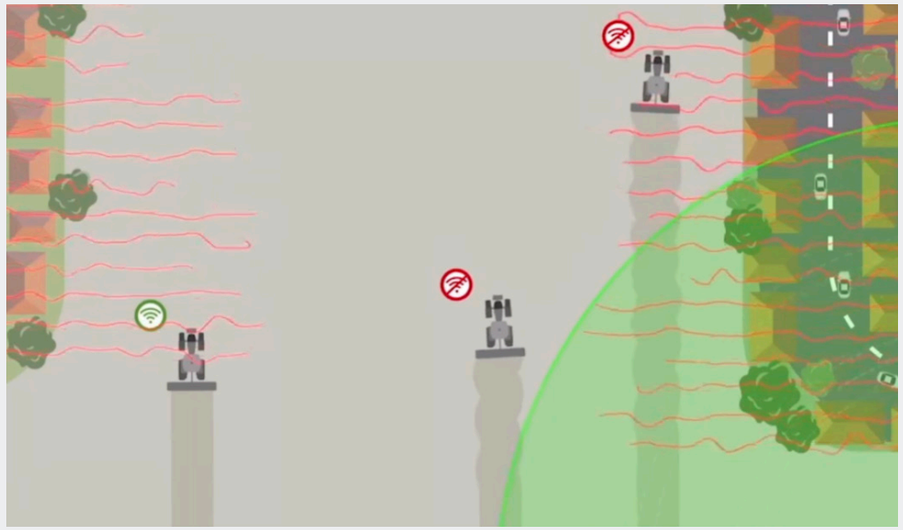
The case of the farmers' cooperative Agrargenossenschaft Trebbin eG is also very interesting.

"In 2014, €8 million was invested in a modern dairy plant for 800 cows, and 4 large buildings with cattle shed, repro-stable and calf barn were constructed. Since then, important parameters of animal health and milk yield have been recorded digitally. The employees evaluate the extensive data for each animal and can therefore react quickly if something needs to be intervened or changed in the interest of animal health."
(Agrargenossenschaft Trebbin eG case study)

Beyond the use of digital tools to monitor its cattle's health (including the use of an electronic pedometer for cattle), the cooperative purchased several machines (along with related consultancy services from the manufacturers) which have improved accuracy in farming activities without eliminating the need for human supervision and intervention. For example, the VARIO Guide track guidance system uses satellite technology to steer various machines, such as harvesters. At the same time, the technologies introduced enable the collection and analysis of data for the purposes of monitoring costs and improving accuracy of field operations.

"Because, for example, the tractor automatically follows the right course, the driver can concentrate fully on important things, such as monitoring the implements."
(Agrargenossenschaft Trebbin eG case study).

Figure 1: Driving tractors equipped with automated driving technologies



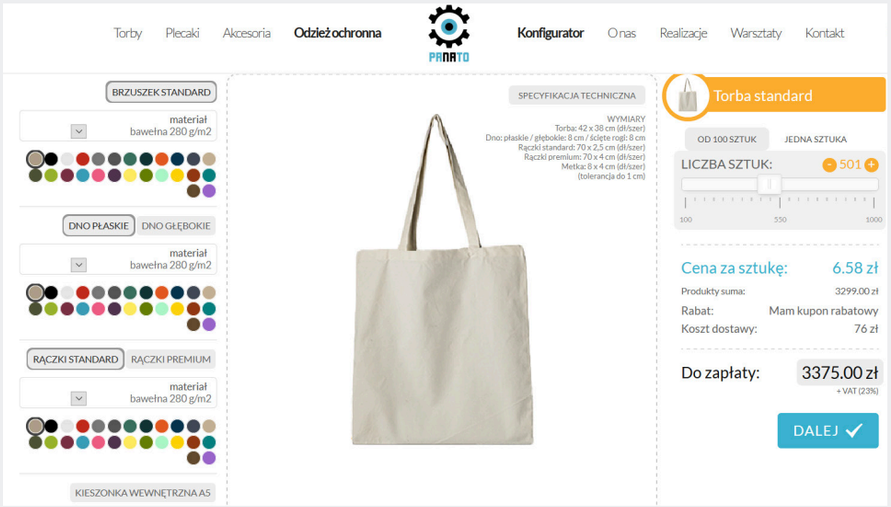
Source: https://www.fendt.com/us/smart-farming/varioguide

At the same time, whilst the internet has provided some companies with a new and alternative channel to reach customers, the solutions adopted hide at the same time the automation of some customer care services and the deployment of new competences.

For instance, the network of bag manufacturers Panato introduced an online configurator which enables its clients to customise their own bags, thus simultaneously 'automating' the design process while 'expanding' the niche of customers seeking a fully personalised product.

"Digitisation of the order process and the design process translates into an increase in orders for partner sewing rooms. Six people supervise the whole process. Soon another one will join the team due to the number of new orders received."
(Panato case study)

Figure 2: The Panato configurator



Source: https://panato.org/konfigurator

By contrast, the social enterprise Hiša! has gradually moved its activities of touristic promotion from on-site to on-line, especially via social media. The company opened an online shop to accompany its physical gadget store, and is slowly beginning to prepare videos of creative and educational workshops, tourist walks and cultural talks.

In the case of the cooperative banks covered by the project, i.e. Raiffeisenbank Main-Spessart and Bank Spółdzielczy w Kruszwicy, the adoption of 'multi-channel' banking policies (i.e. making services available outside branches, especially via tools enabling customers to carry out banking operations via a PC, tablet or smartphone) was framed by a strategy of attracting new, often young, customers.

"Many employees, including managers of individual departments, take part in training in the field of loans, savings, settlements, local government activity, and risk management, organised by the Banking Consultancy and Education Centre in Poznań, which improves the quality and efficiency of customer service. (...)

Employees also undergo additional training in cybersecurity of banking systems, service of the so-called difficult client and detection of suspicious financial operations. Digitalisation reduces watchfulness. The control of digital systems should be strengthened."
(Bank Spółdzielczy w Kruszwicy case study)

As is clearly evident in this latter case, innovation and market expansion usually go hand in hand with measures to retrain the workforce and equip it with new skills.

These may range from running the activities of the company on the web, e.g. selling its products on an e-commerce website or administering a Facebook page, to operating or monitoring a semi-automated machine, to analysing and processing data transmitted or received via an app or a tablet, or even to repairing a robot. Alongside 'digital' skills, digitalisation may also revive the need for other competences, e.g. writing the presentation of a product and taking photos to present it online (Knof) or providing services which have not been automated, as exemplified in the extract above from the Bank Spółdzielczy w Kruszwicy case study.

■ Retraining and upskilling staff

None of the 13 companies 'automating or digitising production' works primarily in the IT sector; rather they address agriculture, manufacturing or other service activities (cleaning, health care, education, tourism, banking) and related occupations. This means workers were often not prepared to handle the new tasks, despite their basic digital skills.

A possible approach to realigning the skills of the workforce with those necessary to perform the new tasks is outsourcing or staff replacement. Although the net impact on employment may well be neutral or even positive, such an approach entails a 'shock' on the lives of those outplaced by innovation, who may lose their jobs, see their related life plans disrupted, and end up relying on public subsidies or training

measures to find new jobs in the same or in another sector.

Rather than resort to this, the companies sampled instead implemented change together with their workforce. In some cases, depending on the type of technology or the level of expertise required, the company used external consultants to accompany the workforce to perform the new tasks. When the pace and features of innovation were more disruptive, as in Raiffeisenbank Main-Spessart, a reduction in the headcount was achieved via natural wastage, thus avoiding social costs.

The bank actually provides also an interesting example of combining training with measures to promoting mutual knowledge sharing and bonding with 'older' colleagues.

"Trainees at Raiba MSP are given a great deal of freedom and can take on responsibility themselves. This also applies in the digital and IT area. For example, trainees have very successfully developed the Linking Generations projects. After appropriate preparation, they manage a branch of the bank for a fixed period of time. They are available on Saturdays to train members in how to operate the apps available for smartphones and tablets. In the Up-to-Date project, the trainees gave their colleagues tips and tricks on how to use technology (mobile phone, office programs, bank program) better and more efficiently in their work."
(Raiba MSP case study)

Despite a considerable degree of staff involvement in implementing change, the initial decision to invest in new technologies was generally taken by the administrators or managers of the sampled companies, with little involvement by the workforce at large.

In few large companies, namely at Raiffeisenbank Main-Spessart, Formula Servizi and Groupe Up, training programmes were also covered by firm-level collective agreements.

Companies delivering public services, like Ambulancias Barbate, Formula Servizi and Suara, were also influenced to some extent by competition for public tenders or, in the case of Ambulancias Barbate, by the explicit contractual requirement that certain digital technologies be used.

Yet, concerning workers' involvement, it is interesting to remark that Suara used digital innovation to improve decision-making itself. In a way similar to most platform cooperatives, as discussed in the next chapter, Suara introduced a web-based platform called 'decidim' on which workers can debate cooperative matters. A hundred mentors are in charge of tutoring new cooperative members in the functioning of the app, a number which looks appropriate considering that the cooperative has more than 1,000 members and employs about 5,000 persons overall. The company also established a department responsible for accompanying digitalisation, one of whose tasks is to discuss innovative changes with the various areas and professionals involved.

Overall, the company policy seems to be an interesting approach to revive worker involvement in decision-making, an essential feature for a real cooperative business, yet one which is difficult to nurture alongside growth and increasing complexity of problems and choices.

"The company created a Digital Transformation Office to promote the development of the Digital Transformation Plan. It is made up of the IT director, the innovation director, the digital transformation director, and includes a Business area and a Marketing area. Weekly meetings are held, by specific projects and areas for implementation. The office coordinates the activities and evaluates advantages and weaknesses."
(Suara case study)

Figure 3: An assembly at Suara

Source: Courtesy of Suara

Although not associating workers, Raiffeisenbank Main-Spessart also provides examples of digitalisation embedding workers' involvement.

"Raiba MSP attaches great importance to the empowerment of individual employees and teams. Indicators for this are e.g. the well accepted company suggestion system, the regular target agreements with each employee, various team development measures and coaching. There is a separate PC program for employees (intranet), where they regularly exchange information – which at the same time is an essential element of further (internal) training"
(Raiba MSP case study)

Whilst retraining may not immediately seem to be the most efficient solution, since the labour market may offer persons already prepared for the new tasks, one should not underestimate: (i) workers' existing sector-specific, if not company-specific, knowledge; (ii) the trust that a similar approach may generate in the workforce, with its cascade effects on commitment at work.

This means such an approach may be appreciated not only from a 'social' perspective and for the savings it generates in public spending on social benefits and active labour market policies, but also from a market perspective.

Beyond the vision and merits of the companies studied, it should be remembered that most new technologies still require workers' inputs, either to operate machines or to monitor them, and of course to repair them.

This means that in the short run we may still expect retraining rather than dismissals to accompany the introduction of highly automated machines. Yet some tasks which are 'highly' automated today risk being fully automated in the future, posing new threats of job losses.

Beyond the above-mentioned case of Speedpak, which opted to slow down the pace of automation so as not to reduce jobs, the bank cases highlight the fact that the pace of digitalisation in the sector will lead to a need to downsize in the long run, even if soft measures, like natural wastage, can milden the immediate impact of changes. Redundancies may even occur in sectors which are apparently safe from the risks of digitalisation. For instance, Hiša! considered using augmented reality to offer virtual tours, an option quickly dismissed both for its high costs and because of the threat it poses for the jobs of tour guides.

Whilst a wider perspective is necessary to address scenarios where, for instance, robots distribute drugs in hospitals or self-driving machines (including tractors) replace the current semi-automated machines, the case studies covered still offer other solutions, in which companies make use of digital innovation to reduce costs, especially labour costs, but without curtailing employment.

- Retraining and upskilling staff

Software programs such as Enterprise Resource Planning (ERP), Customer Relationship Management or simply cloud-based solutions like online word processors, have been introduced in most of the companies sampled, generally as part of wider digitalisation plans, to speed up the workflow, improve coordination within the team, better distribute tasks, and monitor workers' performance.

While the ultimate effect of these innovations relies on the quality of data inputted and the ability to make the best use of the related information, the adoption of these tools, especially of cloud-based tools, enhances the possibility of teleworking, thus easing the adoption of flexible work patterns which reduce costs for companies (e.g. work stations and energy bills) while enabling workers to perform some of their tasks from home or outside standard working hours.

Of course, such measures also hide risks and challenges which are well documented in literature, especially the risk of blurring boundaries between work and private life and of being always reachable by colleagues or clients, aspects which are debated in some of the companies covered.

At Hiša!, whilst the possibility for employees to work remotely was appreciated, the staff decided to cancel the employee's group chats that took place after 18:00, wishing to save this time for socialising outside the work sphere.

At Suara, the adoption of tools enabling the monitoring of the work of the cooperative's educators and health care workers raised some debate.

"Mobile phones update work calendars automatically and therefore there is an improvement in work organisation. The worker is not geolocated. However in the case of home care services to dependent people they have to confirm their actual presence in the user's home. This is generating perceptions of excessive control and stress, and also triggering a strong debate with unions.

In nursery schools, teachers had fears of excessive control by the users. There have been no incidents until now.

Pilot tests have been made where users have the workers' phone numbers but no calls have ever been received outside business hours. There is no extra control by users (a rate of one call per month)."
(Suara case study)

- Using digital tools to simplify work organisation and include vulnerable workers

Whilst the involvement of workers with disadvantages is at the core of

many of the companies covered, some of them used digital tools specifically to boost their involvement.

This is especially the case of Naturcoop. As the company is contracted by municipalities and public authorities to carry out services of cleaning and gardening in green areas, it introduced an app to easily instruct its gardeners on which green areas to treat and what jobs to do, thus reducing the risk of errors.

In this case, smartphones have been used to overcome limits that workers with disadvantages may have in identifying where a task (e.g. wood/grass cutting) is to be performed or the task itself, thus improving work organisation and easing their working inclusion.

More generally, companies like Agrargenossenschaft Trebbin or Formula Servizi introduced technologies which simplify tasks, i.e. distributing implements from a tractor or administering drugs to hospital patients, thus reducing fatigue and errors. As previously mentioned, the goal of pursuing social inclusion also affected the process of digital innovation at Speedpak.

Figure 4: New technologies supporting the administration of drugs, meals, linen and waste in hospitals at Formula Servizi.

Source: Courtesy of Formula Servizi

Indeed, in the cases of Naturcoop and Speedpak, we have companies including, among others, people with mental disabilities and convicts, a circumstance which influenced their decision to introduce monitoring tools. Naturcoop introduced a digital 'logbook', which contains information that is to be shared between the social services and the company, such as the measures agreed to overcome the situation of disadvantage, the employment contract and the training carried out. Speedpak introduced biometric clocking-in, to secure the recording of actual presences on site.

4. Social economy enterprises and platform work

As stated in the Background Report, debate over platforms mostly concerns the underlying business model, which is based essentially on the use or abuse of self-employment status to sell or mediate services in return for a transaction fee.

Discussion revolves mainly around the digital tools used to manage or match workers with job offers. Whether or not the platform actually establishes a genuine or a fraudulent self-employment relationship, workers are mostly controlled via arbitrary decisions supported or taken automatically by algorithms, which are often blind to the multifaceted situations a worker may face. For instance they may penalise workers who refuse to accept tasks regardless of whether they are temporarily unable to work due to sickness.

Coming to the platforms sampled, whilst most of them do use self-employment contracts, their distinguishing features appear to be their democratic functioning and the lesser role played by algorithms vis-à-vis human choice.

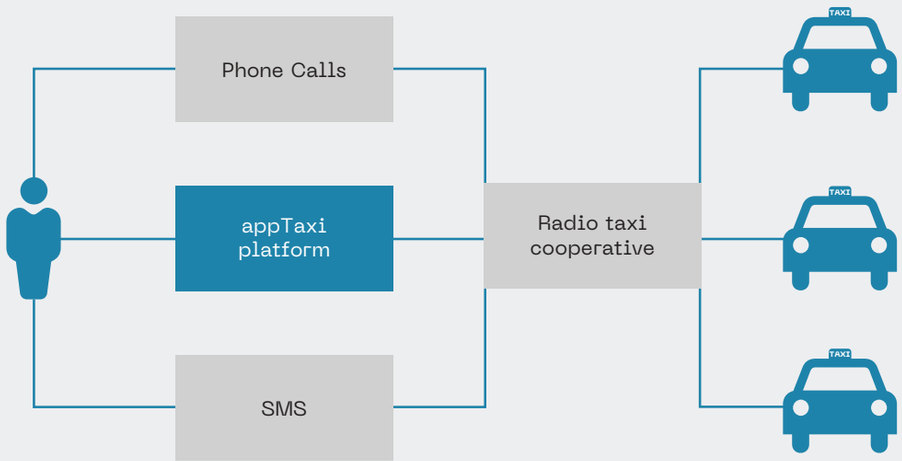
For instance, Doc Servizi, which had existed since the early 1990s as a (non-digital) platform connecting artists and related occupations in a cooperative, introduced a digital platform to streamline the sharing of administrative information (including invoices and payslips), and to screen workers according to their skills. Thus, when the company is asked to provide a service, it can narrow down the research to those of its affiliated members who have the skills required. The decision on which members to involve in a given service is not automated; instead a filter, built on the basis of their competences, supports decision-making. The company also uses its ability to network artists and related occupations to lobby legislators to give more protection in terms of social safety nets and health and safety, an action which has already led to some policy reforms.

The other Italian platform, appTaxi, is active in the passenger transport sector in competition with well-known platforms like Uber and Free Now. The app, which is apparently very similar to its competitors, links passengers with cooperative radio

taxis. However, the cooperatives retain the responsibility for assigning ride requests to regular taxi drivers as they do for ride requests received through other channels, and they do this according to their usual rules (basically in terms of how near the taxi driver is to the passengers).

The case shows in a crystal-clear way how mobility apps can be developed without disrupting existing norms. At the same time, similarly to what emerged in the previous chapter, in the future digitalisation may be pushed forward to also automate the task currently performed by radio taxi operators — directing the request to the taxi drivers. Whilst this development has not yet materialised, operators in some affiliated radio taxi cooperatives are being trained to provide qualified assistance to passengers, in such a way as to upskill their abilities before their current ones become outmoded.

Figure 5: The model of appTaxi, designed as a tool for affiliated radio taxi cooperatives rather than to match passengers with taxi drivers directly



Source: Author

In addition, most of the platforms sampled use the digital space to trigger cooperation rather than competition among workers. This means that the platform environment is something more than a marketplace where people compete to get a (scarce) number of job opportunities, resembling rather a public square, where people get to know each other and come up with joint projects or ideas.

Sometimes decision-making software, like Loomio, is used to stimulate interaction and debate among workers, for instance on whether to apply together for a funding opportunity. In addition, the platforms may organise community events at local or national level to foster connections within their community. This is particularly evident in the French ouishare and Happy Dev cases. Interestingly, the adoption of software to support decision-making also appears in traditional cooperatives, like Suara, while the reliance on 'transparency' as a tool to foster connections and increase trust also emerges in Panato. Whilst it cannot be classified a digital platform, the company still links orders for bags with a (closed) network of 12 producers, therefore, in a way similar to platforms, operating in a two-sided market. In order to foster collaboration and trust within the network, the company has decided to make offers received and their dispatch transparent.

All these experiences remind us that the web can be a good servant of cooperative ideals and approach. Yet exploitative dynamics may also emerge among formal peers.

As long as freelancers compete not only for high-skilled tasks and are not necessarily able to bargain for a decent remuneration (per task or overall), platforms are trapped in the risk of vehiculating jobs which are not remunerative. At the same time, dynamics within the platform environment may lead to the emergence of 'insiders', who are able to use their experience or connections to get the lion's share or impose unfair conditions on their colleagues. In the case of Happy Dev, for instance, 'captains' (i.e. senior members) have the roles both of guaranteeing the values of the organisation ("reliability, professional solidarity and optimism") and of organising the work. Whilst such a combined role may be easier to fulfil in new-born organisations based on a shared and strong value basis, especially as the number of captains is relatively small (22), the clear risk in the long run lies in the possible abuse of asymmetries in terms of access to information and hierarchy in the network. Members can currently either set up a team to provide a service and negotiate internally the remuneration of members, including of the team leader, or ask the platform to organise the team and keep commercial relations with the clients. In the latter case, members leave a fee for the platform, and also 5% for the 'captain'. Whilst this second approach may prevent conflicts in the allocation of resources for the actual management duties, the overall underlying risk is of creating a parallel system of uncontrolled labour intermediation, a risk so far prevented by the system of values rather than by the structure of the platform itself.

"Today, Happy Dev's business model is based on commissions. Happy Dev takes 5% of the value of each job offered and managed through the

platform, while the captain who leads it takes another 5%. The member signs the contract with the client, and Happy Dev takes the commission. Job opportunities come both from members and directly from Happy Dev.

This intermediation model is the business model typical of the classic extractive platform: Happy Dev acts as a digital intermediary by organising and managing providers' (developers') activity according to consumer needs (e.g. app, software).

But even if Happy Dev offers digitally-delivered services, it is different from the classical online digital platform that uses an algorithm to shift a range of managerial responsibilities from human to machine, because in Happy Dev the responsibility is taken by the "captain" who has also the role of guaranteeing respect for shared principles and values (see Manifesto)."
(Happy Dev case)

Going beyond slogans often repeated by leading platforms, Happy Dev manifesto states "wage labour is a form of enslavement. Happy Dev allows our members to be independent and masters of their own destiny". Although the company clearly targets genuine freelancers and is thought to help them join their forces, internal hierarchies to organise work remain necessary and are indeed in place. Furthermore, despite the intentions, being a catalyser of job opportunities, it may well attract freelancers out of necessity rather than of choice, possibly unable to craft their destiny due to the position of disadvantage vis-à-vis their clients.

The organisation of work teams looks instead fluid and horizontal in ouishare, where hierarchical positions are not formalised outside specific projects. Yet, some members may informally acquire privileged positions, which, in turn, may trigger inequalities in the way projects and the related remuneration are shared within the community.

"Teams organise themselves depending on commercial opportunities. Recruitment among the community can be done through a public call for participation on the Loomio digital tool, or it can follow informal relationships between people.

Even if horizontal hierarchy is the rule for general decision-making, operational teams in projects can organise themselves in various ways, enabling fast and centralised decisions if needed.

Being a project manager does not bring formal access to power or more weight in decision-making in the future. Being a leader today does not mean that you will lead a new team tomorrow. (...)

This practice leaves space for informal power. Even if no formal position is attributed, workers recognise expertise and seniority in others. In such a changing environment, the process of gaining power is unclear and can be frustrating; pay is not public and new workers have little information on which to negotiate their income. This situation can generate mistrust"
(ouishare association case study).

The characteristics are different in the 4freelance platform cooperative, which takes a more centralised approach. The tasks/jobs are still assigned to freelancers by the company's managers, possibly by contacting individually those reputed to be most apt for the job. The 600 members are clustered according to their competences (mostly high-skilled IT occupations) and are the first choice when the platform gets a request. Only when no members are available do the platform managers contact non-affiliated users. In addition, competition risks are partially avoided by seeking customers in high-added value market niches, including large customers who may value quality over price.

Overall, it is arguable whether similar platforms will keep this balance in the future or slip either toward the traditional model (i.e. hiring some freelancers as the relationships with some customers become constant) or towards the dominant platform business model (i.e. enlarging the bases of customers and workers along with increased competition among workers and automated selection/ranking systems).

The latter risk may be avoided if they succeed in transmitting their value basis and if members maintain controls over the allocation of surplus. Akin to the traditional platforms' business model, a surplus is built up mainly by applying levies on assigned tasks and jobs. Yet, as part of a cooperative, members may have the ultimate say on its use, a decision obviously influenced by market trends and competition by other, for profit, platform companies.

5. Other experiences of digital innovation promoted by social economy enterprises

Beside experiences addressing the digitalisation of work, the project identified and screened three cases concerning more general services promoting digital innovation supplied by cooperatives and social economy enterprises.

Whilst being outside the original scope of the research, these experiences were deemed relevant in the light of the social cohesion and possible employment growth they can generate among their target users, such as SMEs or the local community at large. A brief summary of their distinguishing features follows.

Som Mobilitat is a cooperative organising a car sharing service. It enables communities to join the platform, to collectively own one or more cars and to organise themselves to carry out the related duties (e.g. cleaning the car). However the service extends outside the larger towns to reach smaller

communities. In this respect, and, most importantly, ahead of the revitalisation of medium-sized communities that may result from the current rise of telework, the cooperative may represent a model to reduce the risk of a surge in the use of private vehicles. Such a model can inform mobility programmes seeking to integrate public transport with alternative solutions for commuters and the general population.

France Barter supplies a platform designed to connect enterprises and enable the sale among them of products and services either for a fixed price or on quotation.

As credits gained this way can be used only on the platform (while remaining subject to taxes), the platform acts as a catalyst of opportunities for companies to exploit unused space or resources, or simply to establish new business relations. The platform charges a commission, which, in exchange, ensures the creditworthiness of companies thanks to partnerships with professional organisations and rating companies according to the quality of their services and goods, their responsiveness, their prices and the "collaborative" attitude developed within the network.

As in other platform cooperatives studied, France Barter organises events to strengthen networking among its members, which are mostly attracted by the mutual benefits of a system committing small and medium enterprises to sustain each other.

Finally, the workers' cooperative Cultivate based its business on the delivery of digital services to its local community, companies and students, ranging from offering a space to use 3D printing or laser-cutting, to assisting local firms in using digital platforms, or teaching new manufacturing technologies. The cooperative, based in a very small rural 'ecovillage' pursuing a sustainable local development model, acts therefore as a local broker of technological innovation, using its knowledge and competences to guide local companies through digital innovation.

6. Conclusions

The preliminary comparison of case studies illustrates some key themes for reflection where social economy enterprises can significantly contribute to embedding the principles of the social pillar in processes of technological innovation.

First of all, the companies sampled provide many examples of how labour-saving technologies can be accompanied by the maintenance of employment levels, if not their growth, when conceived within a strategy designed to exploit efficiency gains to expand sales, possibly also by upskilling the workforce. In this context, given their role in providing health care, cleaning or education services outsourced by public administrations, the experiences covered also prompt an analysis of the role public procurement can play to trigger fair technological innovation and quality-led competition.

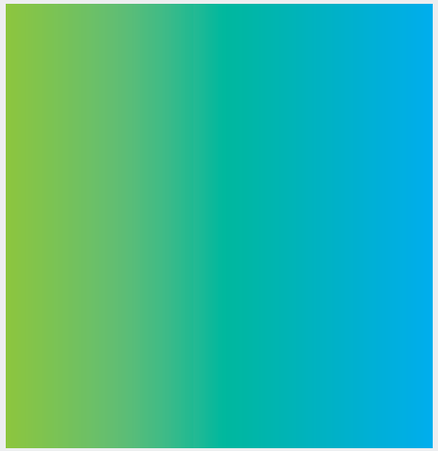
Secondly, the introduction of tools smoothing work organisation, such as the adoption of cloud-based solutions or of ERP, has enabled companies to introduce or foster forms of telework or internal flexibility arrangements, anticipating a wider trend which is exploding with the pandemic and related restrictions on travel and gatherings.

The cases show insights from the actual experience of workers and companies, including the advantages and risks of new forms of telework. Among the latter, it should be remarked that the digitalisation of communication and the availability of software to monitor workers, or simply embedding similar features, raised debate in some companies covered on the risks in the area of privacy, surveillance of workers, and work-life reconciliation.

Third, as concerns platform cooperatives, the cases sampled provide examples of how digital and physical discussion and meetings can create a community of web-colleagues rather than a 'crowd' of gig workers competing with each other. These experiences look very informative not only for suggesting actions in the field of the platform economy but also for the overall use of virtual tools in combination with physical events to strengthen democratic processes of decision-making in cooperatives and among firms generally. At the same time, the achievements of platform cooperatives appear very fragile, given the presence of an 'extractive' business model and that they involve workers exposed to the usual problems in terms of pay and social protection of freelancers.

Beyond proving a wide array of possible experiences and practices illustrating the opportunities of different innovation paths, the cases covered remind us that the road to socially sustainable innovation may still entail perils and contradictions, occurring especially in areas already labelled as problematic in political and academic debate and where the regulations at EU or national level are emerging (for instance privacy or platform business).

The following stages of the project, leading to the final report, will build on these opportunities and these perils to discuss possible complementary approaches to addressing them at the appropriate levels.



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